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ABSTRACT

One of a series of productivity primers examining the interrelationship among vocational education, productivity, and economic development, this volume consists of a series of 31 quotations by individuals and organizations pertaining to the major issues and concerns involved in the present and future content of vocational education as a major force in increasing economic development and productivity. While the pages of this document can easily serve as masters for overhead transparencies for use in mediated instruction, the publication can also serve as a quick briefing tool to familiarize the reader with some of the important issues confronting vocational educators as they attempt to aid in America's economic development. Among the topics addressed in the individual quotations are the following: key factors associated with productivity, factors of generic importance to a nation's performance, the decline of the productivity growth rate in the United States, possible reasons for current economic problems, labor as a form of capital, major factors for change in vocational education, changing demographics, industrial renewal and vocational education, shifts in our approach to employment policy, a structured productivity program, the need for increased cooperation, and the emergence of leadership from new alliances between education and business. (MN)

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PRODUCTIVITY PRIMER

BOOK 4

ECONOMIC DEVELOPMENT AND PRODUCTIVITY:

A POTPOURRI OF THOUGHTS, CONCERNS, FACTS, AND PROJECTIONS

Compiled by

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CE 034959

The National Center for Research in Vocational Education
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INTRODUCTION

The pages that follow are designed to provide the reader with a ready reference to some of the major issues and concerns related to economic development, productivity, and their relationships to the present and future context of vocational education in the United States.

The issues of concern are complex and multifaceted. They should not be construed as a synopsis of all the factors that impinge on the national economy, productivity, vocational education, or our emergence into a highly technological society. What is presented in this publication reflects only some of the more pervasive concerns of the moment.

This document has two major uses. Its pages can easily serve as masters for overhead transparencies for use in mediated instruction. The publication can serve also as a quick briefing tool for the reader to obtain a sense of what some of the important issues are.

The issues, facts, and projections presented were drawn from other documents included in the *Productivity Primer* of the National Center for Research in Vocational Education. For each item or series of items presented here, the source is referenced. A complete reference section is provided at the end of the publication.

We at the National Center for Research in Vocational Education hope you find this to be a useful tool as you learn more about economic development, productivity, and vocational education.

PRODUCTIVITY

THERE IS NO UNIVERSAL DEFINITION OF PRODUCTIVITY OR HOW IT IS MEASURED. (SULLIVAN)

- **WEBSTER'S DICTIONARY DEFINES PRODUCTIVITY AS:**
  - **ABUNDANCE OR RICHNESS IN OUTPUT**
  - **THE PHYSICAL OUTPUT PER UNIT OF PRODUCTIVE EFFORT**
- **THE NATIONAL ASSOCIATION OF STATE DIRECTORS OF VOCATIONAL EDUCATION DEFINES PRODUCTIVITY AS:**
  - **THE RELATIONSHIP OF INPUT TO OUTPUT**
- **OTHERS DEFINE PRODUCTIVITY AS:**
  - **OUTPUT PER PERSON-HOUR**

THE MEASUREMENT OF PRODUCTIVITY SHOULD NOT FOCUS ON LABOR ALONE. IT SHOULD CONSIDER THE CONTRIBUTIONS OF *CAPITAL, MATERIALS, AND ENERGY.* (SULLIVAN)

KEY FACTORS ASSOCIATED WITH PRODUCTIVITY

- FISCAL POLICIES
- MONETARY POLICIES
- HUMAN RESOURCE POLICIES

(STRINER)

FACTORS OF GENERIC IMPORTANCE TO A NATION'S PERFORMANCE

- A WELL-TRAINED, SPECIALIZED LABOR FORCE

- INVESTMENTS IN MAJOR TRAINING AND EDUCATION EFFORTS TO PROVIDE FOR THE NEEDS OF PUBLIC AND PRIVATE SECTORS

(STRINER)

PRODUCTIVITY GROWTH

THE GROWTH OF OUTPUT PER WORKER HAS LONG BEEN RECOGNIZED AS ONE OF THE MOST IMPORTANT DETERMINANTS OF NATIONAL ECONOMIC GROWTH AND STABILITY.

EVANS

ECONOMIC DEVELOPMENT

A SET OF PLANNED ACTIONS DESIGNED TO—

- **ATTRACT NEW INDUSTRY**
- **EXPAND EXISTING INDUSTRY**
- **REVITALIZE EXISTING INDUSTRY**
- **INCREASE THE PRODUCTIVITY GROWTH RATE**

(NATIONAL ASSOCIATION OF STATE DIRECTORS OF VOCATIONAL EDUCATION)

PRODUCTIVITY GROWTH RATE IN UNITED STATES IS DECLINING

- THE AMERICAN ECONOMY TRADITIONALLY HAS BEEN THE STRONGEST AND MOST PRODUCTIVE IN THE WORLD. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

- SINCE 1973, THE GROWTH IN OUTPUT PER WORKER HAS DETERIORATED SHARPLY. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

- ALTHOUGH CURRENT OUTPUT PER EMPLOYEE IN THE U.S. IS THE HIGHEST OF THE MAJOR INDUSTRIALIZED NATIONS, THE LOW RATE OF PRODUCTIVITY GAIN WILL ENSURE LOSING ITS NUMBER ONE POSITION BY 1986. (STRINER)

- IN THE WORLD ECONOMY THE UNITED STATES IS IN AN UNCOMPETITIVE POSITION IN PARTICULAR INDUSTRIES. (SULLIVAN)

- THE COST OF DOING BUSINESS AND THE COST OF MAINTAINING A WORK FORCE IS INCREASING ANNUALLY. (SULLIVAN)

CAUSES FOR MAJOR CONCERN

- TO THE EXTENT THAT A SLOWDOWN IN U.S. PRODUCTIVITY GROWTH CAUSES THE PRICES OF U.S. GOODS TO RISE FASTER THAN THE PRICES OF FOREIGN GOODS, BOTH U.S. AND FOREIGN CONSUMERS WILL SHIFT THEIR SPENDING IN FAVOR OF FOREIGN PRODUCTS.

- BECAUSE OF THE DECLINE IN PRODUCTIVITY GROWTH RATE SINCE 1973, AND AN ABSOLUTE DECLINE IN THE PRODUCTIVITY LEVEL SINCE 1978, CONCERN OVER NATIONAL PRODUCTIVITY HAS BECOME SIGNIFICANT.

- THE EFFORT TO REVERSE THE PRODUCTIVITY SLUMP TAKES CENTER STAGE IN CONGRESSIONAL ECONOMIC POLICY DISCUSSIONS.

(CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

POSSIBLE REASONS FOR THE CURRENT ECONOMIC/PRODUCTIVITY MALAISE

- THE U.S. ECONOMY IS UNABLE TO ADAPT AS QUICKLY AS FOREIGN COMPETITORS TO PRODUCTION OPPORTUNITIES IN AN ADVANCED INDUSTRIAL ECONOMY. (CARNEVALE)

- THE SEEDS TO CURRENT INSISTENCE ON OUTWORN POLICIES WERE SOWN BY OUR DRAMATIC SUCCESSES OF THE PAST FORTY YEARS. (CARNEVALE)

- U.S. ECONOMIC POLICIES HAVE BEEN LIMITED TO THE FISCAL AND MONETARY INTERVENTIONS NECESSARY TO MANAGE GROWTH. (CARNEVALE)

- RESOURCE MOBILIZATION, THE DEVELOPMENT OF HUMAN AND MACHINE CAPITAL, AND THE PROCESS OF PRODUCTION ITSELF HAVE BEEN IGNORED. (CARNEVALE)

- CONSUMER SPENDING HAS SHIFTED MARKEDLY AWAY FROM MANUFACTURED COMMODITIES TOWARD THE CONSUMPTION OF SERVICES. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

- THE SEVENTIES SAW THE RAPID INFLUX OF WOMEN AND TEENAGERS INTO THE JOB MARKET. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

Continued: POSSIBLE REASONS FOR MALAISE

- ENERGY PRICES CONTINUE TO RISE. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)
- THERE ARE EXCESSIVELY HIGH RATES OF INFLATION. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)
- THE INDIRECT COSTS OF DOING BUSINESS ARE RISING. (SULLIVAN)
- GROWTH IN COMPENSATION HAS GROWN AND RATE OF OUTPUT HAS DECLINED. (SULLIVAN)
- THERE IS A REDUCED RATE OF CAPITAL FORMATION. (SULLIVAN)
- THERE IS A LACK OF ADEQUATE PRODUCTIVITY MEASUREMENT SYSTEMS THAT FAIL TO EXAMINE THE PRODUCTIVITY OF "MANAGEMENT." (SULLIVAN)
- THERE ARE LIMITED INCENTIVES FOR INDIVIDUAL AMERICANS TO MAKE SAVINGS INVESTMENTS NECESSARY FOR THE CAPITAL STOCK OF U.S. TO EXPAND. (SULLIVAN)
- ATTENTION HAS BEEN DIVERTED FROM RESEARCH AND DEVELOPMENT IN PRODUCTIVITY TO RESEARCH AND DEVELOPMENT ASSOCIATED WITH COMPLYING WITH GOVERNMENT REGULATIONS. (SULLIVAN)

Continued: POSSIBLE REASONS FOR MALAISE

- THE PROLIFERATION OF GOVERNMENT REGULATIONS HAS REDUCED PRODUCTIVITY IN BOTH PUBLIC AND PRIVATE SECTORS. (SULLIVAN)

- THERE IS A GROWTH OF DISINCENTIVES TO WORK, SUCH AS:

  - WORKERS REACT NEGATIVELY TO MANAGEMENT EFFORTS TO GET OUT MORE WORK.
  - WORKER ATTITUDES ARE POOR. (SULLIVAN)

- THERE EXISTS A GENERAL LACK OF PRODUCTIVITY AWARENESS. (SULLIVAN)

- PEOPLE ARE RELUCTANT TO SUBMIT TO AN EXAMINATION OF WHAT THEY DO. (SULLIVAN)

- PRODUCTIVITY IS USUALLY NOT AN ORGANIZATIONAL GOAL. (SULLIVAN)

- PRODUCTIVITY HAS NOT BEEN ADDRESSED AS PART OF NATIONAL PLANNING. (SULLIVAN)

THE IMPORTANCE OF HUMAN CAPITAL

THE UNITED STATES HAS IGNORED AND CONTINUES TO IGNORE THE ECONOMIC IMPORTANCE OF HUMAN CAPITAL:

- **THE CONFERENCE BOARD REPORTS THAT 35 PERCENT OF THE FIRMS IT STUDIES PROVIDE *REMEDIAL TRAINING* AT A COST OF $20 BILLION.**
- **GROWTH IN NEW NONAGRICULTURAL JOBS IS CONCENTRATED IN LOW WAGE AND LOW PRODUCTIVITY JOBS.**
- **SHORTAGES IN HIGH SKILL/HIGH WAGE JOBS WILL AMOUNT TO 250,000 UNFILLED JOBS BY 1985.**
- **THE UNITED STATES HAS DROPPED FROM SECOND TO SEVENTH IN THE MEASURED "SKILL ENDOWMENTS" OF ITS WORKERS.**

(CARNEVALE)

A PRIMARY GOAL OF ECONOMIC POLICY MUST BE TO RESTORE THE U.S. ECONOMY TO HEALTHY PRODUCTIVITY GROWTH.

(CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

AN ECONOMIC DEVELOPMENT STRATEGY MUST FOCUS ON THE OVERALL ECONOMIC CLIMATE. IT MUST ENCOMPASS A BROAD RANGE OF POLICIES, INCLUDING TRAINING, INFRASTRUCTURE DEVELOPMENT, CAPITAL MOBILITY, AND A BALANCED TAX STRUCTURE.

(NATIONAL ASSOCIATION OF STATE DIRECTORS OF VOCATIONAL EDUCATION)

THE QUANTITY OF WORK AND THE QUALITY OF THE WORK FORCE SHOULD REFLECT THE IMPORTANCE OF HUMAN CAPITAL.

(CARNEVALE)

THE MOST CRITICAL ELEMENT IN THE PRODUCTIVITY EQUATION IS

PEOPLE

(PELOQUIN)

LABOR MUST BE VIEWED AS A FORM OF CAPITAL IN WHICH IT MAKES SENSE TO INVEST AND REINVEST IN ORDER TO:

- **LOWER UNEMPLOYMENT**
- **INCREASE PRODUCTIVITY**
- **LOWER INFLATION**

(STRINER)

TRAINING WILL HAVE DIRECT IMPACT ON THE U.S. ECONOMY BY INCREASING CURRENT PRODUCTIVITY STANDARDS

TRAINING MUST INCLUDE:

- **BASIC SKILLS**
- **WORK HABITS**
- **INDUSTRY GENERIC SKILLS**
- **QUALITY OF WORK LIFE AND EMPLOYEE PARTICIPATION PROGRAMS**

(LINCOLN)

BEHAVIORAL CHANGE (VALUE SYSTEMS, ATTITUDES, ETC.) IS PERHAPS THE MOST IMPORTANT CHALLENGE FACING PRODUCTIVITY DEVELOPMENT.

(SULLIVAN)

IN THE COMING DECADE, THREE MAJOR DEVELOPMENTS ARE SEEN AS IMPORTANT FACTORS FOR CHANGE IN VOCATIONAL EDUCATION:

- **CHANGES IN THE NATIONAL DEMOGRAPHIC PROFILE AND IN RETIREMENT PRACTICES**
- **REGIONAL SHIFTS IN ECONOMIC ACTIVITY AND IN EMPLOYMENT**
- **RENEWAL OF THE INDUSTRIAL SECTOR AS A KEY INGREDIENT IN ECONOMIC GROWTH**

(LECHT)

INDUSTRIAL RENEWAL AND VOCATIONAL EDUCATION

THE RENEWAL OF THE INDUSTRIAL SECTOR AS A KEY INGREDIENT IN THE ECONOMY'S GROWTH ALSO EFFECTS CHANGES IN VOCATIONAL EDUCATION:

- **LARGE-SCALE CAPITAL OUTLAYS WILL BE USED TO RESTRUCTURE INDUSTRIAL PLANTS.**
- **NEW CAPITAL INVESTMENTS WILL CREATE MANY JOBS IN PROFESSIONAL, TECHNICAL, AND SKILLED AREAS:**
  - **THREE FIFTHS OF THE OVERALL INCREASE ARE EXPECTED TO TAKE PLACE IN SERVICES AND TRADES.**
  - **THERE WILL BE A CONTINUATION OF THE SHIFT TO A POSTINDUSTRIAL SOCIETY.**
- **THE BULK OF TRAINING WILL BE IN POSTSECONDARY INSTITUTIONS.**
- **VOCATIONAL PROGRAMS WILL SERVE AS A BASIS FOR SPECIALIZED TRAINING IN INDUSTRY.**
- **JOB CONTENT WILL CHANGE IN EXISTING OCCUPATIONS IN RESPONSE TO ADVANCES IN TECHNOLOGY. (LECHT)**
- **JOBS WILL BE REDESIGNED AND WORKERS WILL NEED TO BE RETRAINED. (EVANS)**
- **RETRAINING WILL BE REQUIRED FOR REENTRANTS:**
  - **HOMEMAKERS WHO REENTER THE LABOR FORCE.**
  - **RETIREES WHO REENTER THE LABOR FORCE. (LECHT)**

CHANGING DEMOGRAPHICS

- THE ROLE OF MANUFACTURING INDUSTRIES AS A SOURCE OF EMPLOYMENT HAS SHIFTED TO THE *SOUTH* AND *WEST* ALONG WITH A MIGRATION OF WORKERS LOOKING FOR JOBS:
  - POPULATION LOSSES IN FORMERLY HIGHLY POPULATED AREAS WILL LEAD TO A REAPPORTIONMENT OF CONGRESSIONAL SEATS AND LESS POLITICAL WEIGHT.
  - THE MEMBERSHIP BASE OF UNIONS WILL BECOME SMALLER IN THESE REGIONS OF DECREASING EMPLOYMENT.

- CHANGES IN RETIREMENT PRACTICES WILL OCCUR:
  - OLDER EMPLOYEES WILL WORK LONGER BECAUSE INFLATION WILL CONTINUE TO ERODE BENEFIT PAYMENTS AND PENSIONS.
  - GAINS IN LIFE EXPECTANCY WILL INCREASE THE NUMBER OF OLDER PERSONS WHO WILL CHOOSE TO STAY IN LABOR FORCE.
  - THE DECLINING BIRTH RATE WILL INCREASE THE PROBABILITY THAT OLDER PERSONS WILL CONTINUE TO WORK.
  - OLDER EMPLOYEES WHO ARE POTENTIAL RETIREES WILL BE PERMITTED BY LAW TO WORK MORE YEARS.

(LECHT)

A NEED FOR MOBILITY

A RAPIDLY SHIFTING INDUSTRIAL BASE AND ACCELERATING INTERNATIONAL COMPETITION WILL INCREASE THE NEED FOR OCCUPATIONAL AND GEOGRAPHIC MOBILITY IN THE NATION'S WORK FORCE.

(CARNEVALE)

SOME RECOMMENDATIONS FOR VOCATIONAL EDUCATION

- FEDERAL SUPPORT FOR PROGRAM MAINTENANCE SHOULD BE SHIFTED TO PROGRAM IMPROVEMENT.
- INDUSTRY SHOULD BE ALLOWED TO DEPRECIATE FULLY ALL EQUIPMENT THAT IS DONATED TO AND USED BY VOCATIONAL PROGRAMS.
- RESEARCH AND DEVELOPMENT FUNDS SHOULD BE CONCENTRATED ON IMPROVING PRESENT AND FUTURE PROGRAMS.
- A SYSTEM MUST BE DEVELOPED TO UPDATE SKILLS OF VOCATIONAL STAFF.
- VOCATIONAL CURRICULA SHOULD PREPARE TRAINEES TO WORK IN CHOSEN FIELDS IN ANY GEOGRAPHIC AREA.
- THE RESTRICTION SHOULD BE REMOVED THAT DISALLOWS THE TRAINING OF PEOPLE FOR PROFESSIONAL WORK.
- EVERY STATE SHOULD HAVE A SYSTEM OF POSTSECONDARY VOCATIONAL AND TECHNICAL EDUCATION AVAILABLE EQUALLY TO ALL OF ITS RESIDENTS.

(EVANS)

Continued: RECOMMENDATIONS FOR VOCATIONAL EDUCATION

- COSTS OF VOCATIONAL EDUCATION SHOULD BE BASED ON THE NUMBER OF HOURS SPENT IN IT AND THE AMOUNT LEARNED, AND SHOULD BE JUDGED IN TERMS OF COMPETENCIES AND JOB SATISFACTION.

- LINKAGES TO LOCAL PRIVATE INDUSTRY COUNCILS SHOULD BE STRENGTHENED.

- THE DEPARTMENT OF EDUCATION SHOULD ORGANIZE EDUCATION AND WORK UNITS.

(EVANS)

- VOCATIONAL EDUCATION MUST BE RESPONSIVE TO THE MORE COMPLEX NEW TECHNOLOGY AND PRODUCTS OF THE EIGHTIES:

  - EMPLOYEES WHO ARE HIGHLY TRAINED IN BUSINESS AND TECHNICAL SKILLS WILL BE HIRED BY NEW FIRMS.

  - DISADVANTAGED GROUPS WILL NEED TO DEVELOP EMPLOYABILITY SKILLS NECESSARY FOR MORE SPECIALIZED TRAINING.

(LECHT)

A SHIFT IN OUR APPROACH TO EMPLOYMENT POLICY IS OCCURRING

- THE INFLUENCE OF DEMAND-SIDE ECONOMICS IS WANING.

- THE INFLUENCE OF SUPPLY-SIDE ECONOMICS IS ASCENDING.

(FELDMAN)

INCREASED COOPERATION

- THE KEYSTONE TO THE SUCCESS OF AN EXPANDED SUPPLY-SIDE POLICY IS INCREASED COOPERATION AMONG GOVERNMENT, BUSINESS, AND LABOR.

- THE SUCCESS OF VOCATIONAL EDUCATION WILL PIVOT ON ITS ABILITY TO COOPERATE WITH SISTER INSTITUTIONS IN THE PUBLIC SECTOR:

  - EMPLOYMENT SERVICES

  - CETA

  - PRIVATE INDUSTRY COUNCILS, ETC.

- THE SUCCESS OF VOCATIONAL EDUCATION WILL ALSO DEPEND ON ITS ABILITY TO MOVE TOWARD THE PRIVATE SECTOR.

(CARNEVALE)

A STRUCTURED PRODUCTIVITY PROGRAM = IMPROVED PRODUCTIVITY

- AN AWARENESS THAT PRODUCTIVITY NEEDS TO BE IMPROVED SHOULD BE PRESENT AT ALL LEVELS OF AN ORGANIZATION.
- THE ORGANIZATION MUST SELECT APPROACHES TO IMPROVEMENT THAT ARE KEYED TO THE STRUCTURE AND GOALS OF THE ORGANIZATION.
- THE APPROACH MUST BE KEYED TO THE USE OF THE AVAILABLE RESOURCES OF THE ORGANIZATION.
- EMPLOYEES SHOULD BE INVOLVED FROM THE BEGINNING OF THE PRODUCTIVITY IMPROVEMENT PROCESS.
- EMPLOYEES MUST HAVE SOME INCENTIVES FOR BEING MORE PRODUCTIVE.
- THE EFFORTS OF PEOPLE IN THE ORGANIZATION SHOULD BE REWARDED AND RECOGNIZED.
- THE PARTICULAR APPROACH FOR PRODUCTIVITY IMPROVEMENT NEEDS TO BE INTEGRATED INTO THE TRAINING SYSTEMS THAT SUPPORT THE ORGANIZATION.
- THERE NEEDS TO BE A MEASUREMENT STRUCTURE.
- LEADERSHIP IS NEEDED TO INSTALL THE PROGRAM AND TO KEEP IT GOING.

(SULLIVAN)

POINTS TO PONDER

- CAN WE ACCURATELY ASSESS THE ECONOMIC HEALTH OF THE UNITED STATES? (SULLIVAN)

- IS PRODUCTIVITY THE KEY TO SOLVING INFLATION AND ADDRESSING BALANCE OF PAYMENT PROBLEMS? (SULLIVAN)

- THERE ARE PROBLEMS WITH MEASURING PRODUCTIVITY:

  - DISTORTIONS INTRODUCED BY BUSINESS CYCLES.
  - TECHNOLOGICAL AND PRODUCT QUALITY CHANGES.
  - UNMEASURED CHANGES IN LABOR INPUT.
  - CHANGES IN OUTPUT NOT CAPTURED IN INCOME AND PRODUCT ACCOUNTS. (CONGRESS OF THE UNITED STATES, JOINT ECONOMIC COMMITTEE)

- THERE HAS BEEN A FOCUS ON PRODUCTIVITY GAINS IN MANUFACTURING, WITH A NEGLECT OF THE SERVICE SECTOR, WHICH IS BECOMING A LARGER PART OF OUR ECONOMY. (SADLER)

- MOST LOCAL EMPLOYMENT GROWTH OCCURS THROUGH THE BIRTH OF NEW FIRMS AND THE EXPANSION OF EXISTING SMALL COMPANIES. VERY LITTLE GROWTH (OR DECLINE) RESULTS FROM THE IMMIGRATION (OR OUT-MIGRATION) OF FIRMS. (NATIONAL ASSOCIATION OF STATE DIRECTORS OF VOCATIONAL EDUCATION)

LEADERSHIP MUST
COME FROM NEW ALLIANCES.

(STRINER)

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